

Set Name Query  
side by side

*DB=USPT; PLUR=YES; OP=OR*

L6    L5

*DB=DWPI; PLUR=YES; OP=OR*

L5    semiconductor\$3 near5 (wafer\$2 or chip\$2 or integrated circuit\$2 or circuit\$3) and (produc\$4 or manufatur\$4) and (flowmeter or flow detect\$4 or flow meter\$2 or anemometer\$2) and (chamber or vessel or tank or reservoir) and (flow or fluid velocity) near5 (rate or rate of change) and (block\$3 or occlus\$4 or constrict\$4 or clog\$4) and (flowline\$2 or flowpath\$2 or flow channel\$2 or flow passage\$4 or flow line\$2 or flow path\$2)

0    L6

L4    semiconductor\$3 near5 (wafer\$2 or chip\$2 or integrated circuit\$2 or circuit\$3) and (produc\$4 or manufatur\$4) and (flowmeter or flow detect\$4) and (chamber or vessel or tank or reservoir) and (flow or fluid velocity) near5 (rate or rate of change) and (block\$3 or occlus\$4 or constrict\$4 or occlud\$4) and (flowline\$2 or flowpath\$2)

13    L5

*DB=USPT; PLUR=YES; OP=OR*

L3    L2

L2    L1 and flow near\$5 (compar\$4 or proportion\$4)

L1    semiconductor\$3 near5 (wafer\$2 or chip\$2 or integrated circuit\$2 or circuit\$3) and (produc\$4 or manufatur\$4) and (flowmeter or flow detect\$4) and (chamber or vessel or tank or reservoir) and (flow or fluid velocity) near\$5 (rate or rate of change) and (block\$3 or occlus\$4 or constrict\$4) and (flowline\$2 or flowpath\$2)

1829247    L3

1829247    L2

853206    L1

END OF SEARCH HISTORY

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L5: Entry 12 of 13

File: DWPI

Oct 18, 1995

DERWENT-ACC-NO: 1995-352848

DERWENT-WEEK: 199915

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TITLE: Dry vapour generator used in mfr. of semiconductor circuits - has heated vessel with settling chamber in compact unit which may be fitted to existing equipment and gives min. liquid stagnation

INVENTOR: CHUC, K N; EBBING, P F

PATENT-ASSIGNEE: APPLIED MATERIALS INC (MATEN)

PRIORITY-DATA: 1994US-0227973 (April 15, 1994), 1993US-0034066 (March 22, 1993)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 677703 A1	October 18, 1995	E	016	F22B001/28
DE 69507365 E	March 4, 1999		000	F22B001/28
JP 08082402 A	March 26, 1996		012	F22B001/28
US 5537508 A	July 16, 1996		012	F24F003/14
EP 677703 B1	January 20, 1999	E	000	F22B001/28

DESIGNATED-STATES: AT BE CH DE ES FR GB GR IE IT LI NL SE AT BE CH DE ES FR GB GR IE IT LI NL SE

CITED-DOCUMENTS: DE 359303; EP 323939 ; EP 422653 ; FR 2512473 ; FR 2653208 ; US 3339531

## APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
EP 677703A1	April 18, 1995	1995EP-0105759	
DE 69507365E	April 18, 1995	1995DE-0607365	
DE 69507365E	April 18, 1995	1995EP-0105759	
DE 69507365E		EP 677703	Based on
JP 08082402A	April 17, 1995	1995JP-0090861	
US 5537508A	March 22, 1993	1993US-0034066	CIP of
US 5537508A	April 15, 1994	1994US-0227973	
EP 677703B1	April 18, 1995	1995EP-0105759	
EP 677703B1	April 18, 1995	1998EP-0113092	Related to
EP 677703B1		EP 874193	Related to

INT-CL (IPC): B01 D 1/30; F22 B 1/28; F24 F 3/14; F28 F 19/01; H01 L 21/304

RELATED-ACC-NO: 1998-544743

ABSTRACTED-PUB-NO: EP 677703A

## BASIC-ABSTRACT:

In an apparatus for generating dry vapour a channel conveys liquid from a source to a vessel (12) for holding the liquid. A heater (150) heats the liquid in the vessel to generate a vapour, and a settling chamber (14) settles out liquid drops in the vapour.

Also claimed is an apparatus for generating dry vapour including a manifold assembly (10) having first (20) and second (38) blocks with mating surfaces and aligned ports. The vessel for holding liquid is secured to the manifold, has a fill tube (152) connected to the second block's outlet port for providing liquid and a drain for removing liquid, and a thermo-well tube (154) and temperature sensor (156) to determine the temperature of liquid in the vessel. A heater heats the liquid to generate a vapour. The first settling chamber has a sloped bottom (180) and a vapour inlet (178) with a cross-section substantially smaller than the vessel's. A second settling chamber (8) above the first has a vapour outlet for dry vapour in its top wall and a sloped dividing wall (176) between the two chambers. A second vapour inlet (182) for the vapour from the first chamber is located in the lower end of the dividing wall.

Also claimed is a method for providing dry vapour.

USE - For generating a dry vapour such as may be used in the manufacture of semiconductor circuits.

ADVANTAGE - The system supplies dry vapour with minimum liquid stagnation to limit the growth of bacteria and algae. It delivers at a desired rate without apparent mass flow controller pressure spikes and its compact size allows it to be installed in existing equipment.

ABSTRACTED-PUB-NO: EP 677703B

EQUIVALENT-ABSTRACTS:

In an apparatus for generating dry vapour a channel conveys liquid from a source to a vessel (12) for holding the liquid. A heater (150) heats the liquid in the vessel to generate a vapour, and a settling chamber (14) settles out liquid drops in the vapour.

Also claimed is an apparatus for generating dry vapour including a manifold assembly (10) having first (20) and second (38) blocks with mating surfaces and aligned ports. The vessel for holding liquid is secured to the manifold, has a fill tube (152) connected to the second block's outlet port for providing liquid and a drain for removing liquid, and a thermo-well tube (154) and temperature sensor (156) to determine the temperature of liquid in the vessel. A heater heats the liquid to generate a vapour. The first settling chamber has a sloped bottom (180) and a vapour inlet (178) with a cross-section substantially smaller than the vessel's. A second settling chamber (8) above the first has a vapour outlet for dry vapour in its top wall and a sloped dividing wall (176) between the two chambers. A second vapour inlet (182) for the vapour from the first chamber is located in the lower end of the dividing wall.

Also claimed is a method for providing dry vapour.

USE - For generating a dry vapour such as may be used in the manufacture of semiconductor circuits.

ADVANTAGE - The system supplies dry vapour with minimum liquid stagnation to limit the growth of bacteria and algae. It delivers at a desired rate without apparent mass flow controller pressure spikes and its compact size allows it to be installed in existing equipment.

US 5537508A

An apparatus for generating dry vapor, the apparatus comprises:

a manifold assembly with a channel for conveying a liquid from a liquid source;

a vessel for holding the liquid, the vessel being secured to the manifold assembly and having a fill tube connected to the manifold assembly's channel for receiving liquid from the manifold assembly, the vessel having a cross-section;

a settling chamber located within the vessel above the liquid in the vessel for settling out liquid drops in the vapor, the settling chamber including a vapor inlet with a cross-section that is substantially smaller than the vessel's cross-section for receiving vapor, and a vapor outlet for removing dry vapor from the settling chamber;

wherein the manifold assembly comprises a first block and a second block, each block having an inlet port, an outlet port and a channel connecting the ports, the first block having a mating surface for mating with a mating surface of the second block; and

wherein the first block and the second block are in mating engagement at their mating surfaces such that the first block's outlet port is aligned with the second block's inlet port; and

wherein the second block's outlet port is connected to the vessel's fill tube.

CHOSEN-DRAWING: Dwg.1/9 Dwg.1/9

DERWENT-CLASS: J01 L03 Q72 Q74 U11

CPI-CODES: J01-A01; L04-D10;

EPI-CODES: U11-C04A1D; U11-C07A1; U11-C07C2;

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L5: Entry 3 of 13

File: DWPI

Jul 27, 2001

DERWENT-ACC-NO: 2001-544958

DERWENT-WEEK: 200161

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TITLE: Reaction chamber pressure control method involves controlling gas flow rate based on control position of pressure regulating valve computed using pressure characteristic equation

PATENT-ASSIGNEE: MATSUSHITA DENKI SANGYO KK (MATU)

PRIORITY-DATA: 2000JP-0011078 (January 20, 2000)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 2001202138 A	July 27, 2001		006	G05D016/00

## APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP2001202138A	January 20, 2000	2000JP-0011078	

INT-CL (IPC): C23 C 16/52; G05 D 16/00; H01 L 21/205; H01 L 21/3065

ABSTRACTED-PUB-NO: JP2001202138A

## BASIC-ABSTRACT:

NOVELTY - The gas flow rate corresponding to each pressure level in a reaction chamber, is stored in a memory. The position of pressure regulating valve corresponding to a target pressure level of the process chamber is computed, using a characteristic pressure equation. The position of pressure regulating valve is adjusted to the computed level, so that pressure inside the chamber is equal to target pressure level.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) Reaction chamber pressure control system;
- (b) Process chamber

USE - For controlling pressure in process chamber for dry etching apparatus, thin film forming apparatus, for manufacture of semiconductor device, wafer, liquid crystal panel, etc.

ADVANTAGE - Enables to obtain target pressure level quickly. Reduces the amount of gas used in the process chamber.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of control apparatus. (Drawing includes non-English language text).

ABSTRACTED-PUB-NO: JP2001202138A

## EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/4

DERWENT-CLASS: T06 U11

EPI-CODES: T06-B11; U11-C01B; U11-C07A1;

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L5: Entry 9 of 13

File: DWPI

Mar 5, 1999

DERWENT-ACC-NO: 1999-234598

DERWENT-WEEK: 199921

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TITLE: Chemical solution supply method employed in semiconductor device manufacture - involves controlling drive stroke of diaphragm in reciprocating pump based on detection result from pressure detector

PATENT-ASSIGNEE: TOKYO ELECTRON LTD (TKEL)

PRIORITY-DATA: 1997JP-0230259 (August 12, 1997)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 11062838 A	March 5, 1999		010	F04B043/02

## APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 11062838A	August 12, 1997	1997JP-0230259	

INT-CL (IPC): F04 B 15/00; F04 B 43/02; F04 B 43/067; F15 B 21/12; G01 F 11/36; G05 B 23/02; H01 L 21/304

ABSTRACTED-PUB-NO: JP 11062838A

## BASIC-ABSTRACT:

NOVELTY - 'A pressure detector (42) is arranged at the discharge side of a reciprocating pump (41) which when driven makes chemical solution stored in a tank (4) to be supplied to a processing unit. The drive stroke of a diaphragm in the pump is varied based on the pressure detection result, according to which flow rate of pump per unit time is varied.

USE - For supplying chemical solution used in processing semiconductor wafer, glass substrate in manufacture of semiconductor device, LCD device.

ADVANTAGE - A fixed quantity of chemical solution is supplied. Safety is secured.

DESCRIPTION OF DRAWING(S) - The figure shows block diagram of cleaning and drying process system which applies the supply apparatus of chemical solution. (4) Tank; (41) Reciprocating pump; (42) Pressure detector.

ABSTRACTED-PUB-NO: JP 11062838A

## EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/10

DERWENT-CLASS: Q56 Q57 S02 T06 U11

EPI-CODES: S02-C04C; T06-A08; U11-C06A1;

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L5: Entry 10 of 13

File: DWPI

Feb 9, 1999

DERWENT-ACC-NO: 1999-186702

DERWENT-WEEK: 200120

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TITLE: Chemical vapour deposition apparatus for semiconductor film formation - supplies purge gas at predefined flow rate so as to block penetration of raw gas in back surface of wafer

INVENTOR: KAWANO, Y; MIZUKAMI, M ; MOCHIZUKI, T

PATENT-ASSIGNEE: TOKYO ELECTRON LTD (TKEL)

PRIORITY-DATA: 1997JP-0205474 (July 16, 1997)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 11036076 A	February 9, 1999		006	C23C016/44
US 6210486 B1	April 3, 2001		000	C23C016/00
US 6045862 A	April 4, 2000		000	C23C016/04

## APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 11036076A	July 16, 1997	1997JP-0205474	
US 6210486B1	July 9, 1998	1998US-0112452	Div ex
US 6210486B1	February 8, 2000	2000US-0499675	
US 6210486B1		US 6045862	Div ex
US 6045862A	July 9, 1998	1998US-0112452	

INT-CL (IPC): C23 C 16/00; C23 C 16/04; C23 C 16/44; H01 L 21/205; H01 L 21/285; H01 L 21/31

ABSTRACTED-PUB-NO: JP 11036076A

## BASIC-ABSTRACT:

NOVELTY - A semiconductor wafer (W) is mounted on a susceptor (2) inside a chamber (1). A raw gas supply source (25) supplies the raw gas to the surface of wafer through a shower head (20) to form a film. A purge gas supply source (15) supplies purge gas to the periphery of wafer from its back. The rate of flow of purge gas is set such that the flow stream of purge gas blocks the penetration of raw gas to the back surface of wafer. DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for CVD film formation method.

USE - For film formation on semiconductor wafer during IC manufacture.

ADVANTAGE - The film formation by raw gas in back surface of wafer is avoided, by adjusting flow stream of purge gas. DESCRIPTION OF DRAWING(S) - The figure illustrates the chemical vapor deposition apparatus. (1) Chamber; (2) Susceptor; (15) Purge gas supply source; (20) Shower head; (25) Raw gas supply source; (W) Semiconductor wafer.

ABSTRACTED-PUB-NO: US 6045862A

## EQUIVALENT-ABSTRACTS:

NOVELTY - A semiconductor wafer (W) is mounted on a susceptor (2) inside a chamber (1).

A raw gas supply source (25) supplies the raw gas to the surface of wafer through a shower head (20) to form a film. A purge gas supply source (15) supplies purge gas to the periphery of wafer from its back. The rate of flow of purge gas is set such that the flow stream of purge gas blocks the penetration of raw gas to the back surface of wafer. DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for CVD film formation method.

USE - For film formation on semiconductor wafer during IC manufacture.

ADVANTAGE - The film formation by raw gas in back surface of wafer is avoided, by adjusting flow stream of purge gas. DESCRIPTION OF DRAWING(S) - The figure illustrates the chemical vapor deposition apparatus. (1) Chamber; (2) Susceptor; (15) Purge gas supply source; (20) Shower head; (25) Raw gas supply source; (W) Semiconductor wafer.

US 6210486B

NOVELTY - A semiconductor wafer (W) is mounted on a susceptor (2) inside a chamber (1). A raw gas supply source (25) supplies the raw gas to the surface of wafer through a shower head (20) to form a film. A purge gas supply source (15) supplies purge gas to the periphery of wafer from its back. The rate of flow of purge gas is set such that the flow stream of purge gas blocks the penetration of raw gas to the back surface of wafer. DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for CVD film formation method.

USE - For film formation on semiconductor wafer during IC manufacture.

ADVANTAGE - The film formation by raw gas in back surface of wafer is avoided, by adjusting flow stream of purge gas. DESCRIPTION OF DRAWING(S) - The figure illustrates the chemical vapor deposition apparatus. (1) Chamber; (2) Susceptor; (15) Purge gas supply source; (20) Shower head; (25) Raw gas supply source; (W) Semiconductor wafer.

CHOSEN-DRAWING: Dwg.1/3

DERWENT-CLASS: L03 U11

CPI-CODES: L04-C01B; L04-D01;

EPI-CODES: U11-C05C3; U11-C09B;